

CLAIMS

1. An antiviral agent comprising as an active ingredient an SR activity-controlling agent that controls an activity of an SR protein.
- 5 2. The antiviral agent of claim 1, wherein the SR protein is any one of SF2/ASF/SRp30a, SC35/PR264/SRp30b, SRp30c, HRS/SRp40, SRp46, or SRp75.
- 10 3. The antiviral agent of claim 1 or 2, wherein the SR activity-controlling agent is a substance or composition that enhances dephosphorylation of an SR protein.
4. The antiviral agent of claim 3, which is an activator that activates Phosphatase 2A.
- 15 5. The antiviral agent of claim 4, which is an expression vector for gene therapy, which carries an HIV tat gene, an adenovirus E4-ORF4 gene, or a vaccinia virus VH1 gene.
6. The antiviral agent of claim 1 or 2, wherein the SR activity-controlling agent is a substance that inhibits an SRPK.
- 20 7. The antiviral agent of claim 6, wherein the SRPK is an SRPK 1 or SRPK 2.
8. The antiviral agent of claim 1 or 2, wherein the SR activity-controlling agent is an SRPK gene expression inhibitor.
- 25 9. The antiviral agent of claim 8, wherein the SRPK gene expression inhibitor is an miRNA, siRNA, or morpholino oligo targeting an SRPK, or an expression vector for the miRNA or siRNA.
10. The antiviral agent of claim 1 or 2, wherein the SR activity-controlling agent is a substance
30 having the activity of antagonizing an SR protein.
11. The antiviral agent of claim 10, wherein the substance having the activity of antagonizing an SR protein is an expression vector for hnRNPA1.
- 35 12. The antiviral agent of any one of claims 1 to 11, wherein the virus is: (1) any one of the following RNA viruses: a human immunodeficiency virus (HIV), severe acute respiratory

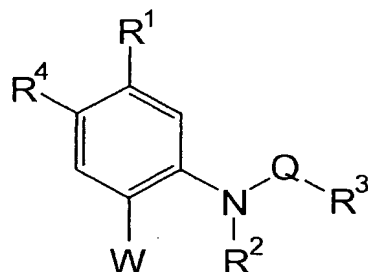
syndrome (SARS), poliovirus, human rhinovirus, adult T cell leukemia virus (HTLV-I), hepatitis A, C, D, and E viruses, vaccinia virus, Japanese encephalitis virus, dengue virus, human coronavirus, Ebola virus, influenza virus, or sindbis virus, or (2) any one of the following DNA viruses: a herpes simplex virus, human adenovirus, hepatitis B virus, cytomegalovirus, EB virus, herpesvirus, human herpesvirus, smallpox virus, polyoma virus, or human papilloma virus.

13. A method for screening for an antiviral agent, which comprises the steps of: reacting a test compound with an SRPK, testing the ability of the SRPK to phosphorylate an SR protein, and selecting a compound that inhibits that ability.

14. The screening method of claim 13, which comprises the step of testing the ability of an SRPK to phosphorylate an SR protein using, as a substrate, an SR protein or a peptide with two or more consecutive Arg-Ser (RS) or Ser-Arg (SR).

15. A method for producing antiviral agents, which comprises the step of formulating a compound obtained by the method of claim 13 or 14.

16. An aniline derivative represented by the following formula (I):



(I)

or a pharmaceutically acceptable salt or hydrate thereof;

wherein, R¹ represents a hydrogen atom, a C₁₋₆ alkyl group which may have a substituent, a C₂₋₆ alkenyl group which may have a substituent, a C₂₋₆ alkynyl group which may have a substituent, a C₆₋₁₀ aryl group which may have a substituent, a halogen atom, a nitro group, a cyano group, an azide group, a hydroxy group, a C₁₋₆ alkoxy group which may have a substituent, a C₁₋₆ alkylthio group which may have a substituent, a C₁₋₆ alkylsulfonyl group which may have a substituent, a carboxyl group, a formyl group, a C₁₋₆ alkoxycarbonyl group which may have a substituent, an acyl group, an acylamino group, or a sulfamoyl group;

R² represents a hydrogen atom, a C₁₋₆ alkyl group which may have a substituent, or an aryl group which may have a substituent;

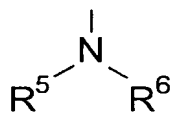
R³ represents a C₁₋₆ alkyl group which may have a substituent, a C₂₋₆ alkenyl group which may

have a substituent, a C₆₋₁₀ aryl group which may have a substituent, a nitrogen-containing heterocycle which may have a substituent, or a condensed aromatic heterocycle which may have a substituent;

R⁴ represents a hydrogen atom or a halogen atom;

5 Q represents -C(O)-, -C(S)-, -SO₂-, -C(S)NHC(O)-, -C(O)NHC(O)-, or -C(O)NHC(S)-;

W represents a hydrogen atom, a C₁₋₆ alkyl group which may have a substituent, a C₆₋₁₀ aryl group which may have a substituent, a halogen atom, a hydroxy group, a C₁₋₆ alkoxy group which may have a substituent, a C₁₋₆ alkylthio group which may have a substituent, a nitrogen-containing heterocycle which may have a substituent, a condensed aromatic heterocycle
10 which may have a substituent, or a group represented by the following formula (II):



(II)

wherein, R⁵ and R⁶ are the same or different and each represents a hydrogen atom, a C₁₋₆ alkyl group which may have a substituent, a nitrogen-containing heterocycle which may
15 have a substituent, a condensed aromatic heterocycle which may have a substituent, an acyl group, or an acylamino group;

the above R⁵ and R⁶ together with the adjacent nitrogen atom may form a heterocycle which may have a substituent, and the heterocycle may be a condensed aromatic heterocycle which may have a substituent;

20 the above R⁵ and R⁶ may be a cycloalkylidene amino group which may have a substituent, or an aromatic condensed cycloalkylidene group which may have a substituent.

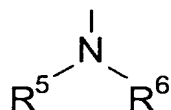
17. The aniline derivative of claim 16, or a pharmaceutically acceptable salt or hydrate thereof,
25 wherein the above R¹ is a hydrogen atom, a C₁₋₆ alkyl group which may have a substituent, or a halogen atom.

18. The aniline derivative of claim 16 or 17, or a pharmaceutically acceptable salt or hydrate thereof, wherein the above R² is a hydrogen atom or a C₁₋₆ alkyl group.

19. The aniline derivative of any one of claims 16 to 18, or a pharmaceutically acceptable salt or hydrate thereof, wherein the above R³ is a C₆₋₁₀ aryl group which may have a substituent, or a nitrogen-containing 5- to 10-membered heteroaryl group which may have a substituent.

20. The aniline derivative of any one of claims 16 to 19, or a pharmaceutically acceptable salt or hydrate thereof, wherein the above R⁴ is a hydrogen atom.

21. The aniline derivative of any one of claims 16 to 20, or a pharmaceutically acceptable salt or hydrate thereof, wherein the above W represents a hydrogen atom, a halogen atom, or a group represented by the following formula (II):



(II)

wherein, R⁵ and R⁶ are the same or different and each represent a C₁₋₆ alkyl group which may have a substituent; or the above R⁵ and R⁶ together with the adjacent nitrogen atom may form a heterocyclic group which may have a substituent, and the heterocyclic group may be a condensed aromatic heterocyclic group which may have a substituent.

22. An SRPK inhibitor comprising as an active ingredient any one of the aniline derivatives of claims 16 to 21, or a pharmaceutically acceptable salt or hydrate thereof.

23. An antiviral agent comprising as an active ingredient any one of the aniline derivatives of claims 16 to 21, or a pharmaceutically acceptable salt or hydrate thereof.